**3GPP TSG-CT WG1 Meeting #125-eC1-205428**

**Electronic meeting, 20-28 August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **2580** | **rev** | **1** | **Current version:** | **16.5.1** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | De-registration in ATTEMPTING-REGISTRATION-UPDATE | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
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| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2020-07-30 |
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| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17)* | |
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| ***Reason for change:*** | | For the UE in the state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE, it was specified that:  "*5.2.3.2.3 ATTEMPTING-REGISTRATION-UPDATE*  *The UE in 3GPP access:*  *l) shall not initiate the de-registration signalling procedure unless timer T3346 is running and the current TAI is part of the TAI list.*"  It is true that “*timer T3346 is running*” is one of typical scenario in which the UE enters the state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE. Then when “*the current TAI is part of the TAI list*”, which means the UE has not moved out of the serving area of the current serving AMF and hence, the UE initiated de-registration signalling procedure is allowed in this state.  However, for the case that the UE has not moved out of the serving area of the current serving AMF, there are other scenarios than “*timer T3346 is running*”, in which the UE can also enter the state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE as well. Typically below cases as specified in TS 24.501:  *Case #1: For the abnormal cases c, d and e in sub 5.5.1.3.7, if the TAI of the current serving cell is included in the TAI list, the 5GS update status is equal to 5U1 UPDATED, and the UE is not performing the registration procedure after an inter-system change from S1 mode to N1 mode, and when the registration attempt counter is equal to 5, the UE shall change to state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE.*  *Case #2: For the abnormal cases c, d and e in sub 5.5.1.3.7, if the registration attempt counter is less than 5, and the registration procedure was triggered due to cases g, n, v in subclause 5.5.1.3.2, the UE shall change to state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE.*  In above two cases, the UE can be still in the current TAI list when entering the state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE and hence the UE initiated de-registration signalling procedure is allowed.  Actually here the key condition is whether the UE is still in the current TAI list, i.e. the UE has not moved out of the serving area of the current serving AMF. If so, then the UE initiated de-registration signalling procedure should be allowed as the current serving AMF still has the UE’s contexts which makes the UE initiated de-registration signalling procedure sense.  Hence, the condition “*timer T3346 is running*” should be removed to cover other cases in which the UE enters the state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE but still in the current TAI list. | | | | | | | | |
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| ***Summary of change:*** | | It proposes to remove the condition “*timer T3346 is running*” for allowing the UE initiated de-registration signalling procedure in state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE. | | | | | | | | |
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| ***Consequences if not approved:*** | | The UE initiated de-registration signalling procedure is not allowed in state 5GMM-REGISTERED.ATTEMPTING-REGISTRATION-UPDATE for other cases in which the timer T3346 is not running but the UE is still in the current TAI list. | | | | | | | | |
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| ***Clauses affected:*** | | 5.2.3.2.3 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

##### 5.2.3.2.3 ATTEMPTING-REGISTRATION-UPDATE

The UE in 3GPP access:

a) shall not send any user data;

b) shall initiate a registration procedure for mobility and periodic registration update on the expiry of timers T3502, T3511 or T3346;

c) shall initiate a registration procedure for mobility and periodic registration update when entering a new PLMN, if timer T3346 is running and the new PLMN is not equivalent to the PLMN where the UE started timer T3346, the PLMN identity of the new cell is not in the forbidden PLMN lists, and the tracking area is not in one of the lists of 5GS forbidden tracking areas;

d) shall initiate a registration procedure for mobility and periodic registration update when the tracking area of the serving cell has changed, if timer T3346 is not running, the PLMN identity of the new cell is not in one of the forbidden PLMN lists or the SNPN identity of the new cell is in neither the "permanently forbidden SNPNs" list nor the "temporarily forbidden SNPNs" list, and the tracking area is not in one of the lists of 5GS forbidden tracking areas;

e) may initiate a registration procedure for mobility and periodic registration update upon request of the upper layers to establish an emergency PDU session;

e1) may initiate a registration procedure for mobility and periodic registration update upon request of the upper layers to establish a PDU session, if the UE is a UE configured for high priority access in selected PLMN;

f) may perform de-registration locally and initiate a registration procedure for initial registration for emergency services even if timer T3346 is running;

g) shall initiate registration procedure for mobility and periodic registration update upon reception of paging, or upon reception of NOTIFICATION message with access type indicating 3GPP access;

h) may initiate a registration procedure for mobility and periodic registration update upon request for an MMTEL voice call, MMTEL video call, or an MO IMS registration related signalling from the upper layers, if timer T3346 is not running;

i) shall initiate a registration procedure for mobility and periodic registration update if the 5GS update status is set to 5U2 NOT UPDATED, and timers T3511, T3502 and T3346 are not running;

j) if configured for eCall only mode as specified in 3GPP TS 31.102 [22], shall perform the eCall inactivity procedure at expiry of timer T3444 or timer T3445 (see subclause 5.5.3);

k) may initiate a registration procedure for mobility and periodic registration update for UE in NB-N1 mode upon receiving a request from upper layers to transmit user data related to an exceptional event and the UE is allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [17]) if timer T3346 is not already running for "MO exception data" and even if timer T3502 or timer T3511 is running; and

l) shall not initiate the de-registration signalling procedure unless the current TAI is part of the TAI list.

The UE in non-3GPP access:

a) shall not send any user data;

b) shall initiate the registration procedure for mobility and periodic registration update on the expiry of timers T3502, T3511 or T3346;

c) may initiate a registration procedure for mobility registration update upon request of the upper layers to establish an emergency PDU session;

c1) may initiate a registration procedure for mobility and periodic registration update upon request of the upper layers to establish a PDU session, if the UE is a UE configured for high priority access in selected PLMN;

d) may perform de-registration locally and initiate a registration procedure for initial registration for emergency services even if timer T3346 is running;

e) may initiate a registration procedure for mobility and periodic registration update upon request for an MMTEL voice call, MMTEL video call, or an MO IMS registration related signalling from the upper layers, if timer T3346 is not running;

f) shall initiate a registration procedure for mobility and periodic registration update if the 5GS update status is set to 5U2 NOT UPDATED, and timers T3511, T3502 and T3346 are not running; and

g) shall not initiate the de-registration signalling procedure unless timer T3346 is running.

\* \* \* End of Change \* \* \* \*